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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,545	03/24/2004	Mitsuaki Osame	12732-223001 / US7068/714	3777

26171 7590 01/25/2008

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EXAMINER	
LAO, LUN YI	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
01/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/807,545	OSAME ET AL.	
	Examiner	Art Unit	
	LUN-YI LAO	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/12/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-29 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 7,173,586 in view of Akimoto et al(2003-0067424).

The US patent teaches a light-emitting device comprising: a pixel comprising: a light-emitting element, a first transistor for determining a value of a current flowing to the

light-emitting element, and a second transistor for determining a light emission or non light emission of the light-emitting element depending on a video signal, wherein the light-emitting element, the first transistor, and the

second transistor are connected in series between a first power unit and a

counter electrode of the light-emitting element, and wherein a gate electrode of the first transistor is connected to a second power unit. Comparing the present application with the Patent No. 7,173,586 as below:

10/807,545 (claim 1)	7,173,586(claim 1)
A light-emitting device comprising: a pixel comprising: a light-emitting element,	A light emitting device with a pixel comprising: a light emitting element;
a first transistor for determining a value of a current flowing to the light-emitting element	a first transistor for determining a current value flowing in the light emitting element
a second transistor for determining a light emission or non light emission of the light-emitting element depending on a video signal,	a second transistor for determining a light emission or non-emission of the light emitting element according to a video signal;
the light-emitting element, the first transistor, and the second transistor are connected in series between a first power unit and a counter electrode of the light-emitting element,	the light emitting element is connected in series to the first transistor and the second transistor between a first power supply and a third power supply,
a gate electrode of the first transistor is connected to a second power unit.	a gate electrode of the first transistor is connected to a second

	scan line,

The US Patent fails to disclose a potential of the gate electrode of the first transistor is fixed.

Akimoto et al teaches a potential(turn-on voltage) of the gate electrode of the first transistor(9 or 116 or 42) is fixed(see figures 1-4, 15; paragraphs 48 and 103). It would have been obvious to have modified the US patent with the teaching of Akimoto, so as to simplify a display driving circuit by eliminate a external switch.

3. Claims 1-29 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-40 of U.S. Patent No. 7,141,934 in view of Akimoto et al(2003-0067424).

US Patent No. 7,141,934 teaches a light-emitting device comprising: a pixel comprising: a light-emitting element, a first transistor for determining a value of a current flowing to the light-emitting element, and a second transistor for determining a light emission or non light emission of the light-emitting element depending on a video signal, wherein the light-emitting element, the first transistor, and the second transistor are connected in series between a first power unit and a counter electrode of the light-emitting element.

US Patent No. 7,141,934 fails to disclose a gate electrode of the first transistor is connected to a second power unit with fixed potential.

Akimoto et al teaches a potential(turn-on voltage, second power unit) of the gate electrode of the first transistor(9 or 116 or 42) is fixed(see figures 1-4, 15; paragraphs

48 and 103). It would have been obvious to have modified the US Patent with the teaching of Akimoto, so as to simplify a display driving circuit by eliminate a external switch.

4. Claims 1-29 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-40 of U.S. Patent No. 7,122,969 in view

US Patent No. 7,122,969 teaches a light-emitting device comprising: a pixel comprising: a light-emitting element, a first transistor for determining a value of a current flowing to the light-emitting element, and a second transistor for determining a light emission or non light emission of the light-emitting element depending on a video signal, wherein the light-emitting element and a gate electrode of the first transistor is connected to a second power unit.

US Patent No. 7,122,969 fails to disclose the first transistor, and the second transistor are connected in series between a first power unit and a counter electrode of the light-emitting element and a potential of the gate electrode of the first transistor is fixed.

Akimoto et al teach a light-emitting device comprising the first transistor(4 or 114), and the second transistor(9 or 116) are connected in series between a first power unit(18) and a counter electrode of the light-emitting element(7) and a potential(turn-on voltage, second power unit) of the gate electrode of the first transistor(9 or 116 or 42) is fixed(see figures 1-4, 15; paragraphs 43, 48 and 103). It would have been obvious to have modified the US Patent with the teaching of Akimoto, so as to simplify a display driving circuit by eliminate a external switch.

5. Claims 1-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-52 of copending Application No. 10/840,611 in view of Akimoto et al.

This is a provisional obviousness-type double patenting rejection.

The copending application teaches a light-emitting device comprising: a pixel comprising: a light-emitting element, a first transistor for determining a value of a current flowing to the light-emitting element, and a second transistor for determining a light emission or non light emission of the light-emitting element depending on a video signal, wherein the light-emitting element, the first transistor, and the second transistor are connected in series between a first power unit and a counter electrode of the light-emitting element, and wherein a gate electrode of the first transistor is connected to a second power unit. Comparing the present application with the Patent Application No. 10/840,611 as below:

10/807,545 (claim 1)	10/840,611(claim 1)
A light-emitting device comprising: a pixel comprising: a light-emitting element,	A light emitting device comprising: a light emitting element formed over a substrate;
a first transistor for determining a value of a current flowing to the light-emitting element	a first transistor for determining a current value flowing in the light emitting element
a second transistor for determining a light emission or non light emission of the light-emitting element depending on	a second transistor for determining a light emission or non-emission of the light emitting element according to a

a video signal,	video signal;
the light-emitting element, the first transistor, and the second transistor are connected in series between a first power unit and a counter electrode of the light-emitting element,	the light emitting element, the first transistor and the second transistor are connected in series between a first power supply and a second power supply
a gate electrode of the first transistor is connected to a second power unit.	a gate electrode of the first transistor is connected to a second scan line,

The copending application fails to disclose a potential of the gate electrode of the first transistor is fixed.

Akimoto et al teaches a potential(turn-on voltage) of the gate electrode of the first transistor(9 or 116 or 42) is fixed(see figures 1-4, 15; paragraphs 48 and 103). It would have been obvious to have modified the copending application with the teaching of Akimoto, so as to simplify a display driving circuit by eliminate a external switch.

this is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No.10/803,190(US 20040252565) in view of in view of Akimoto et al(2003-0067424).

The US Copending Application teaches a light-emitting device comprising: a pixel comprising: a light-emitting element, a first transistor for determining a value of a current

flowing to the light-emitting element, and a second transistor for determining a light emission or non light emission of the light-emitting element depending on a video signal, wherein the light-emitting element and a gate electrode of the first transistor is connected to a second power unit..

The US Copending Application fails to disclose the first transistor, and the second transistor are connected in series between a first power unit and a counter electrode of the light-emitting element; and a potential of the gate electrode of the first transistor is fixed.

Akimoto et al teach a light-emitting device comprising the first transistor(4 or 114), and the second transistor(9 or 116) are connected in series between a first power unit(18) and a counter electrode of the light-emitting element(7) and a potential(turn-on voltage, second power unit) of the gate electrode of the first transistor(9 or 116 or 42) is fixed(see figures 1-4, 15; paragraphs 43, 48 and 103). It would have been obvious to have modified the copending application with the teaching of Akimoto, so as to simplify a display driving circuit by eliminate a external switch.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-2, 4, 8-10, 12-14, 18, 26-27 and 29 are ejected under 35 U.S.C. 103(a) as being unpatentable over Koyama(2001-0002703) in view of Akimoto et al(2003-0067424).

As to claims 1-2, 4, 8-10, 12-14, 18, 26-27 and 29, Koyama teaches a light-emitting device comprising: a pixel comprising: a light-emitting element(111 or 1006), a first transistor(112 or 1009) for determining a value of a current flowing to the light-emitting element(111 or 1006) , and a second transistor(109, or 1004) for determining a light emission or non light emission of the light-emitting element depending on a video signal(Sn or 107 or 1103), wherein the light-emitting element(111, 1006), the first transistor(112 or 1009), and the second transistor(109 or 1004) are connected in series between a first power unit(Vn or 1005) and a counter electrode of the light-emitting element(OLED) and wherein a gate electrode of the first transistor(112) is connected to a second power unit(113 or 1010) (see figures 1-3, 4B, 7A, 7B18, 20A , 23; paragraphs 13-16, 113-118 and 148-152).

Koyama fails to disclose a potential of the gate electrode of the first transistor is fixed.

Akimoto et al teaches a potential(turn-on voltage) of the gate electrode of the first transistor(9 or 116 or 42) is fixed(see figures 1-4, 15; paragraphs 48 and 103). It would have been obvious to have modified Koyama with the teaching of Akimoto, so as to simplify a display driving circuit by eliminate a external switch.

As to claim 2, Koyama teaches a third transistor(105) for controlling an input of the video signal(Sn)(see figures 1-3 and paragraphs 116-117).

As to claims 4 and 14, Koyama teaches the first transistor(1009) and the second transistor(1004) are identical in conductivity(can be both P-Channel or N-channel transistors)(see figure 7A and paragraphs 150-152).

As to claims 26-27 and 29, the copending application teaches the light-emitting device is incorporated into at least one selected from the group consisting of a cellular phone, a mobile computer, a game machine, an electronic book, a video camera, a digital camera, a goggle display, a display device, and a navigation system(see figures 17A-17E and paragraphs 345-350).

As to claim 9, Akimoto et al teaches the first transistor(42) and the second transistor(4) has a p-type conductivity(see figure 4; paragraphs 43 and 60). It would have been obvious to have a threshold vale of the transistor is higher than the second transistor since it would depend on designers what sizes(a threshold voltage will be changed when the size of a transistor is change) of the first transistor and the second transistor they could like to choose.

As to claim 10, Koyama teaches the first transistor(1009) and the second transistor(1004) has an N-type conductivity(see figures 7A-7B; paragraphs 150, 152). It would have been obvious to have a threshold vale of the first transistor is lower than the second transistor since it would depend on designers what sizes(a threshold voltage will be changed when the size of a transistor is change) of the first transistor and the second transistor they could like to choose.

As to claims 12 and 18, it would have been obvious to have the first transistor has a channel length longer than a channel width and the second transistor has a channel length equal to or shorter than a channel width since it is well know in the art the size of transistor is calculated by the ratio of channel width to a channel length and it would depend on designers what sizes of the first transistor and the second transistor they could like to choose.

As to claim 13, it would have been obvious to have a ratio of the channel length to the channel width of the first transistor is 5 or more since it would depend on designers how small of the first transistor and the second transistor they could like to choose.

9. .Claims 3, 15, 19, 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Akimoto et al and Kimura(2002/0113760).

As to claims 3, 15 and 28, Koyama as modified fails to disclose a fourth transistor for forcing the light-emitting element into a non-emission state irrelevant from the video signal.

Kimura teaches a light-emitting device comprising a fourth transistor(740) for forcing the light-emitting element into a non-emission state irrelevant from the video signal(Si)(see figures 1A, !b, 17A-17B and paragraphs 150-1160). It would have been obvious to have modified Koyama as modified with the teaching of Kimura, so even if the number of bits of digital signal is increased, an image can be displayed without decreasing a frame frequency(see paragraph 160).

As to claims 15, Koyama teaches the first transistor(1009) and the second transistor(1004) are identical in conductivity(can be both P-Channel or N-channel transistors)(see figure 7A and paragraphs 150-152).

As to claim 28, the copending application teaches the light-emitting device is incorporated into at least one selected from the group consisting of a cellular phone, a mobile computer, a game machine, an electronic book, a video camera, a digital camera, a goggle display, a display device, and a navigation system(see figures 17A-17E and paragraphs 345-350).

As to claim 19, it would have been obvious to have the first transistor has a channel length longer than a channel width and the second transistor has a channel length equal to or shorter than a channel width since it is well know in the art the size of transistor is calculated by the ratio of channel width to a channel length and it would depend on designers what sizes of the first transistor and the second transistor they could like to choose.

As to claim 25, it would have been obvious to have a ratio of the channel length to the channel width of the first transistor is 5 or more since it would depend on designers how small of the first transistor and the second transistor they could like to choose.

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Akimoto et al, Kimura(2002/0113760) and Yamazaki(6,207,969).

Koyama as modified fail to disclose a depletion type transistor.

Yamazaki teaches a light-emitting device comprising a depletion type transistor for driving a light-emitting element(EL)(see figures 1-2B, 14; column 1, lines 13-15 and lines 46-53). It would have been obvious to have modified Koyama with the teaching of Yamazaki, so a transistor could be formed on a signal crystal silicon film by an intrinsic semiconductor in a silicon on insulator(see column 1, lines 45-53).

11. Claims 5-7, 11, 16 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Akimoto et al and Yamazaki(6,207,969).

As to claims 5, 11, 16, 20, 21 and 16, Koyama as modified fail to disclose a depletion type transistor.

Yamazaki teaches a light-emitting device comprising a depletion type transistor for driving a light-emitting element(EL)(see figures 1-2B, 14; column 1, lines 13-15 and lines 46-53). It would have been obvious to have modified Koyama as modified with the teaching of Yamazaki, so a transistor could be formed on a signal crystal silicon film by an intrinsic semiconductor in a silicon on insulator(see column 1, lines 45-53).

As to claims 6, 22 and 23, it would have been obvious to have the first transistor has a channel length longer than a channel width and the second transistor has a channel length equal to or shorter than a channel width since it is well know in the art the size of transistor is calculated by the ratio of channel width to a channel length and it would depend on designers what sizes of the first transistor and the second transistor they could like to choose.

As to claims 7 and 24, it would have been obvious to have a ratio of the channel length to the channel width of the first transistor is 5 or more since it would depend on

designers how small of the first transistor and the second transistor they could like to choose.

Response to Arguments

12. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue that Koyama does not teach a potential of the gate electrode of the first transistor is fixed. However, Akimoto et al teaches such feature(see the discussion of Akimoto et al above).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koyama(2002-0135312) teaches a first transistor(Tr2), a second transistor(Tr1), a power supply line(Vi) and light emitting element(106) connected in series.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi Lao whose telephone number is 571-272-7671. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 19, 2008
Lun-yi Lao
Primary Examiner